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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,400	09/04/2003	Takehiko Isaka	04329.3134	5460
22852 7590 01/24/2008 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER SINGH, RAMNANDAN P	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; width: 200px; height: 20px; margin-bottom: 5px;"></div> <b>Office Action Summary</b>	<b>Application No.</b> 10/654,400	<b>Applicant(s)</b> ISAKA ET AL.	
	<b>Examiner</b> Ramnandan Singh	<b>Art Unit</b> 2614	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>Sep 04, 1003; Jan 13, 2005; May 16, 2006</u> . | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____<br>5) <input type="checkbox"/> Notice of Informal Patent Application<br>6) <input type="checkbox"/> Other: _____ |
|--|--|

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because legends explaining reference numerals used in Figures 16A thru 16D are not shown. See MPEP 608.03(V). Corrected drawing sheets in compliance with 37 CFR 1.84(O) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by

the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5, 7, 8, 11-13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al [EP 1 154 408 A2] in view of either Gerrits [US 20020097807 A1] or Ali [US 6,144,937].

Regarding claim 1, Taniguchi et al disclose an apparatus for audio coding, comprising:

a high-frequency audio coder (320), which encodes high-frequency components of a digital audio signal [Fig. 10]; a noise suppressor (310) which suppresses noise components contained in the signal [Fig. 10]; and

a low-frequency audio coder which encodes the signal processed by the noise suppressor [Figs. 1-21; Para: 0047-0274].

Taniguchi et al do not teach expressly using a down-sampling unit to power the sampling frequency of the audio signal.

Gerrits teaches using a down-sampler (46) to down-sample an narrow-band signal in audio coding [fig. 2; Para: 0019-0021].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the down-sampling feature of Gerrits with Taniguchi et al in order to reduce the data for processing, and thereby improve the efficiency of the audio codec.

Further, Ali teaches using down-sampling an audio signal by a factor of eight [Figs. 1-5; col. 9, line 17 to col. 10, line 46].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the down-sampling feature of Ali with

Taniguchi et al in order to reduce the data for processing, and thereby improve the efficiency of the audio codec [Ali; col. 10, lines 47-60].

Claim 13 is essentially similar to claim 1 and is rejected for the reasons stated above.

Claim 8 is essentially similar to claim 1 except for the fact that the noise suppressor is replaced by an echo suppressor [Taniguchi et al; Figs. 10, 21].

Claim 14 is essentially similar to claim 8 and is rejected for the reasons stated above.

Regarding claims 2, 5, and 11, the limitations are shown above.

Regarding claims 7 and 12, see Figs. 10 and 21 [Para 0324].

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Taniguchi et al and Gerrits as applied to claim 1 above, and further in view of Machok et al [US 20060098808 A1].

Regarding claim 6, the combination of Taniguchi et al and Gerrits does not teach expressly detecting a silence descriptor.

Marchok et al teach detecting a silence signal and subtracting a value corresponding to a gain the silence signal [Fig. Figs. 3, 5-6; Para: 0041].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Marchok et al with Taniguchi et al and Gerrits in order to improve the quality of the entire voice system [ Marchok et al; Para: 0041; line 19].

***Allowable Subject Matter***

5. Claims 3-4 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Basbug et al "Integrated Noise Reduction and Echo Cancellation for IS-136 Systems", 2000, IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP '00, Vol. 3, 5-9 June 2000; pp. 1863-1866.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The




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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ramnandan Singh  
Primary Examiner  
Art Unit 2614